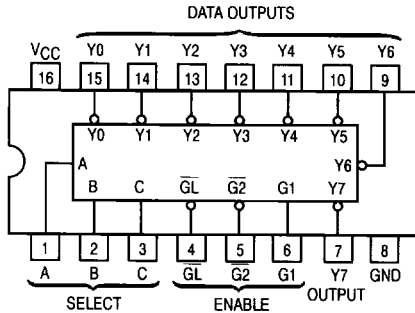




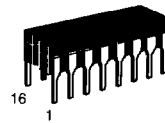
3-LINE TO 8-LINE DECODERS/DEMULTIPLEXERS WITH ADDRESS LATCHES



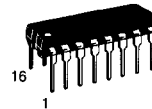
SN54/74LS137

**3-LINE TO 8-LINE
DECODERS/DEMULTIPLEXERS
WITH ADDRESS LATCHES**

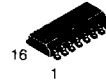
LOW POWER SCHOTTKY



**J SUFFIX
CERAMIC
CASE 620-09**



**N SUFFIX
PLASTIC
CASE 648-08**



**D SUFFIX
SOIC
CASE 751B-03**

ORDERING INFORMATION

SN54LSXXXJ Ceramic
SN74LSXXXN Plastic
SN74LSXXXD SOIC

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GUARANTEED OPERATING RANGES

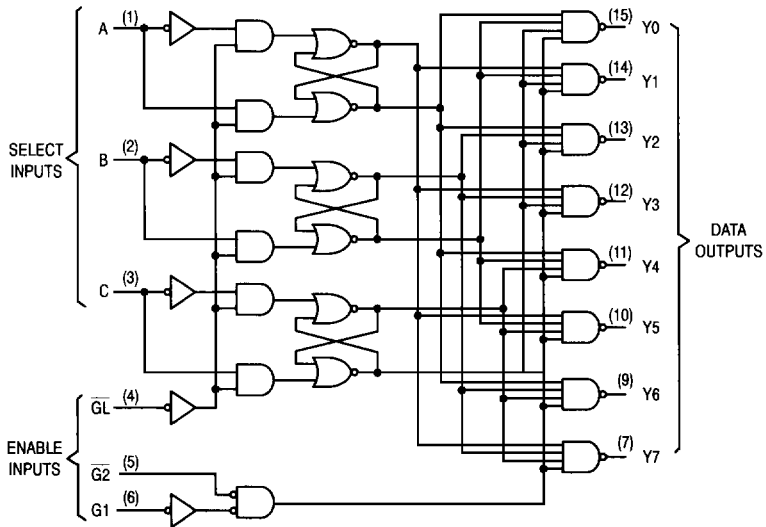
Symbol	Parameter		Min	Typ	Max	Unit
V _{CC}	Supply Voltage	54	4.5	5.0	5.5	V
		74	4.75	5.0	5.25	
T _A	Operating Ambient Temperature Range	54	-55	25	125	°C
		74	0	25	70	
I _{OH}	Output Current — High	54, 74			-0.4	mA
I _{OL}	Output Current — Low	54			4.0	mA
		74			8.0	

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FUNCTION TABLE

INPUTS						OUTPUTS							
ENABLE			SELECT			Y0	Y1	Y2	Y3	Y4	Y5	Y6	Y7
GL	G1	G2	C	B	A								
X	X	H	X	X	X	H	H	H	H	H	H	H	H
X	L	X	X	X	X	H	H	H	H	H	H	H	H
L	H	L	L	L	L	L	H	H	H	H	H	H	H
L	H	L	L	L	H	L	H	H	L	H	H	H	H
L	H	L	L	H	L	H	H	L	H	H	H	H	H
L	H	L	L	H	H	H	H	H	L	H	H	H	H
L	H	L	H	L	L	H	H	H	H	L	H	H	H
L	H	L	H	H	L	H	H	H	H	H	L	H	H
L	H	L	H	H	H	H	H	H	H	H	H	L	L
H	H	L	X	X	X	Output corresponding to stored address, L; all others, H							

H = high level, L = low level, X = irrelevant



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DC CHARACTERISTICS OVER OPERATING TEMPERATURE RANGE (unless otherwise specified)

Symbol	Parameter	Limits			Unit	Test Conditions	
		Min	Typ	Max			
V _{IH}	Input HIGH Voltage	2.0			V	Guaranteed Input HIGH Voltage for All Inputs	
V _{IL}	Input LOW Voltage	54		0.7	V	Guaranteed Input LOW Voltage for All Inputs	
		74		0.8			
V _{IK}	Input Clamp Diode Voltage		-0.65	-1.5	V	V _{CC} = MIN, I _{IN} = -18 mA	
V _{OH}	Output HIGH Voltage	54	2.5	3.5	V	V _{CC} = MIN, I _{OH} = MAX, V _{IN} = V _{IH} or V _{IL} per Truth Table	
		74	2.7	3.5	V		
V _{OL}	Output LOW Voltage	54, 74		0.25	0.4	V	I _{OL} = 4.0 mA
		74		0.35	0.5	V	
I _{IH}	Input HIGH Current			20	μA	V _{CC} = MAX, V _{IN} = 2.7 V	
				0.1	mA	V _{CC} = MAX, V _{IN} = 7.0 V	
I _{IL}	Input LOW Current			-0.4	mA	V _{CC} = MAX, V _{IN} = 0.4 V	
I _{OS}	Short Circuit Current (Note 1)	-20		-100	mA	V _{CC} = MAX	
I _{CC}	Power Supply Current			18	mA	V _{CC} = MAX	

Note 1: Not more than one output should be shorted at a time, nor for more than 1 second.

AC CHARACTERISTICS (V_{CC} = 5.0 V, T_A = 25°C)

Symbol	Parameter	Levels of Delay	Limits			Unit	Test Conditions
			Min	Typ	Max		
t _{PLH} t _{PHL}	Propagation Delay Time, A, B, C to Y	2 4		11 25	17 38	ns	V _{CC} = 5.0 V C _L = 15 pF
t _{PLH} t _{PHL}	Propagation Delay Time, A, B, C to Y	3 3		16 19	24 29	ns	
t _{PLH} t _{PHL}	Propagation Delay Time, Enable $\overline{G2}$ to Y	2 2		13 16	21 27	ns	
t _{PLH} t _{PHL}	Propagation Delay Time, Enable G1 to Y	3 3		14 18	21 27	ns	
t _{PLH} t _{PHL}	Propagation Delay Time, Enable \overline{GL} to Y	3 4		18 25	27 38	ns	

AC SETUP REQUIREMENTS (T_A = 25°C, V_{CC} = 5.0 V)

Symbol	Parameter	Limits			Unit	Test Conditions
		Min	Typ	Max		
t _w	Pulse Width — Enable at \overline{GL}	15			ns	V _{CC} = 5.0 V
t _s	Setup Time, A, B, C	10			ns	
t _h	Hold Time, A, B, C	10			ns	

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